

Appln. No.: 10/651,115
Amendment Dated August 10, 2007
Reply to Office Action of June 19, 2007

TN285

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A heat sink configured to support an edge of a circuit card, said heat sink comprising:

a thermally conductive base;

a plurality of thermally conductive heat dissipating fins extending perpendicularly from said base, each fin having a length extending parallel to the base;

one or more recesses, each recess at least partially defined by adjacent parallel faces of two adjacent fins extending perpendicularly from said base, the recesses being defined in part by surfaces parallel to the base extending along the length of the fins ~~parallel to the base~~, the recesses having a depth smaller than the height of said fins, and ~~configured to the adjacent parallel faces and the surface parallel to the base of each recess~~ support the edge of a circuit card; and

a face of the base disposed opposite said fins, said base being configured to be mounted with said face abutting a heat-generating component.

2. (Original) The heat sink of claim 1 wherein said base and said fins are formed by extrusion.

3. (Original) The heat sink of claim 1 wherein said one or more recesses are further configured to support the edge of the circuit card in sliding association with said heat sink.

4. (Original) The heat sink of claim 3 wherein said recess is a slot configured to guide the edge of the circuit card during sliding movement of the circuit card.

5. (Canceled)

6. (Previously Presented) The heat sink of claim 1 wherein each of said one or more said recesses is further defined by said base.

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7. (Previously Presented) The heat sink of claim 1 wherein said recess is defined by a plurality of said fins.

8. (Canceled)

9. (Original) The heat sink of claim 1 wherein said fins are oriented substantially parallel to one another.

10. (Currently Amended) A method for supporting a circuit card in a computer system, said method comprising the steps of:

affixing in a computer system a heat sink having a recess configured to receive an edge of a circuit card such that the recess orients the circuit card to enable mating the circuit card with a connector, the recess at least partially defined by at least one of a plurality of thermally conductive heat dissipating fins, and a the recess surface extending parallel to a base of the heat sink, the recess and having a depth smaller than the height of said fins;

abutting a face of the base disposed opposite the fins against a heat-generating component; and

positioning the edge of the circuit card in the recess by advancing the card in the recess in a direction parallel to the base such that the edge of the circuit card is supported by the plurality of thermally conductive heat dissipating fins and the surface extending parallel to the base.

11. (Original) The method of claim 10, wherein said positioning step comprises sliding the circuit card in the recess.

12. (Previously Presented) The method of claim 10, wherein said abutting step comprises affixing the heat sink to the heat-generating component.

13. (Original) The method of claim 12 wherein the heat-generating component is mounted on a circuit board, and said affixing step comprises affixing the heat sink with the recess disposed opposite the heat-generating component.

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14. (Currently Amended) The method of claim 10, wherein the circuit card carries at least one heat generating component, and said positioning step comprises thermally coupling the at least one heat generating component of the circuit card to the heat sink when the circuit card is positioned in the recess.

15. (Currently Amended) A circuit board assembly comprising:
a circuit board;
a heat generating component mounted on said circuit board; and
a heat sink thermally coupled to said heat generating component, the heat sink having a base abutting the heat generating component and a plurality of fins disposed on a surface of the base opposite the heat-generating component for dissipating heat, the plurality of fins having faces parallel to one another, said parallel faces of the fins defining a recess ~~for supporting and guiding an edge of a circuit card,~~
said recess extending parallel to the base and at least partially defined by at least one of said fins and by a surface parallel to the base extending along a length of the fins parallel to the base, the recess having a depth smaller than the height of said fins, and the parallel faces of the fins and the surface parallel to the base supporting and guiding an edge of a circuit card.

16. (Original) The circuit board assembly of claim 15 wherein said circuit card comprises an edge portion in sliding association with said recess.

17. (Original) The circuit board assembly of claim 15 further comprising a connector configured for electrically coupling said circuit card to a computer system, said recess of said heat sink being oriented to guide said circuit card for coupling said connector to said computer system.

18. (Currently Amended) A heat sink guiding one or more circuit cards and ~~transferring heat from one or more heat-generating components,~~ said heat sink comprising:

a first surface defining one or more slots configured to guide an edge of a circuit card;

a second surface opposite the first surface, the second surface being configured to abut a heat-generating component; and

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heat dissipating fins thermally coupled to said first surface, said one or more slots at least partially defined by two adjacent parallel faces of said fins, said one or more slots being defined in part by a portion of said first surface extending parallel to the base, said slot having a depth smaller than the height of said fins, and the two adjacent parallel faces of said fins and the portion of said first surface extending parallel to the base supporting the edge of the circuit card, said heat sink being configured to provide a thermal path from the heat-generating component to said fins via said second surface.

19. (Canceled)

20. (Previously Presented) The heat sink of claim 18 wherein the heat sink has a substantially constant cross-sectional shape.

21. (Currently Amended) A method for guiding a circuit board in a computer system, said method comprising:

sliding an edge portion of the circuit board along an insertion axis in a recess defined by adjacent fins of a heat sink of the computer system such that the edge portion of the circuit board is supported by the adjacent fins and a surface extending parallel to a base of the heat sink, the insertion axis extending parallel to ~~the base of the heat sink~~ and the recess having a depth smaller than the height of the fins of the heat sink;

abutting a surface of the heat sink disposed opposite the fins against a heat generating component; and

mating the circuit card with a connector.

22. (Previously Presented) The method of claim 10, wherein said abutting step is performed before the affixing step.

23. (Previously Presented) The method of claim 21, wherein said abutting step is performed before the sliding step.